

MAXLOAD

上海拓起起重

SHANGHAI MAXLOAD CRANES & HOISTS CO., LTD.
上海拓起起重设备有限公司



The World Leading Professional Electric Hoist Manufacturer
世界领先的电动葫芦专业制造商



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Part 1 Introduction

1 Features

- 1.1 Compact structure, light weight, safe and reliable.
- 1.2 High universality, interchangeability and lifting capacity.
- 1.3 Convenient, easy maintenance and operation, stable lifting.
- 1.4 It is one of the most widely used and popular light lifting equipment.

2 Supply Scope

Our company mainly manufactures electric hoists with lifting capacity of 0.25~63t, lifting height of 1~100m, working class of M3~M4, and also can make non-standard cranes according to customers' requirements.

3 Application

Traveling electric hoists can be installed on various kinds of cranes or suspended on I-beam to do some straight or curve motions. Fixed electric hoists can be installed on fixed support to do some vertical motions. It is a necessary equipment for improving working conditions and efficiency in production operation. Widely used in industrial and mining, railway, port, warehouse, etc.

4 Working Conditions

It is applicable in the temperature of -25°C~+40°C, Humidity=85%, Altitude below 1000m, Power is 3-phase 380v 50HZ(also can be customized according to customer's requirements)

5 Classification

Single speed CD1, Double speed MD1, Explosion-proof, Metallurgic, Low headroom hoists etc.

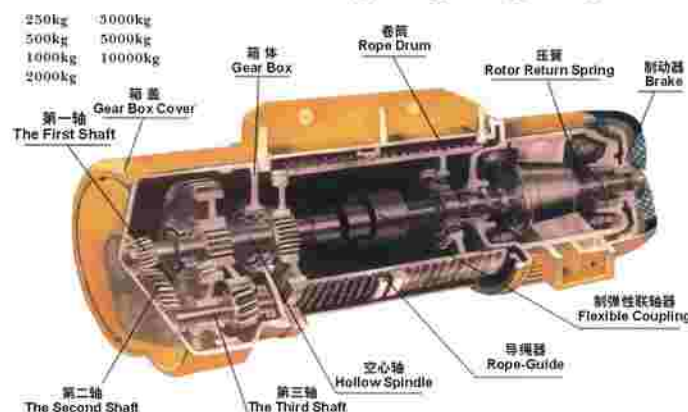
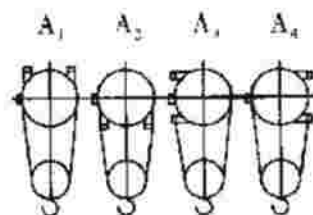
Note: Normal operating hoist is short for "D", for example, CD1 5t-9m means operating hoist, single speed, lifting capacity 5t, lifting height 9m.



6 Structure Layout

Stationary type and operation type both included.

As shown on the right: A1, A2, A3, A4 separately fixed on the up, down, left and right side. A2 always used on the trolley of double beam crane with hoist. It is usually operation type without special explanation, traveling along with beams.



7 Main Structure and Features

Electric hoist is composed of lifting mechanism, traveling mechanism (except fixed type) and electric parts as shown below:



Part 1 Introduction

7.1 Lifting Mechanism

Lifting motor drive winding drum rotating through coupling and hollow spindle of reducer, in order to make wire rope of drum drive the hook up and down.

Lifting Motor

1. Tapered rotor three-phase asynchronous braking motors
2. High starting torque, effective braking, compact structure
3. Stable operation, small volume and light weight
4. Safety in use, convenient maintain
5. B or F class insulation, IP44, IP54 protection
6. CD1 type hoist fitted with ZD type single speed motor, MD1 type hoist fitted with ZDS type double speed motor, its ratio of usual speed and low speed is 10:1.



Reducer

1. Three-level dead axle helical gear rotating body, long service life
2. Gear and the axle made by alloy steel after heat treatment, high intensity
3. Box and cover made from superior cast iron, fully covered
4. Great speed ratio, high accuracy
5. Compact structure, silent operation, high efficiency
6. Machinery oils
7. Easily assemble and disassemble



Winding Drum

1. Made of cast iron or seamless steel tube, light weight, transmit the dynamic force by splines.
2. Coil casing made from superior cast iron, high intensity
3. The drum is the central part of the hoist. It connect with travelling mechanism above through balance beam, with reducer and motor both sides, and with wire rope and hook below. Installed limited guide bar equipment to the up front of the outer cover.



Hook

1. Forge with special steel; thrust ball bearing connect with casing through hook and beam to make the hook operate freely.
2. No more than 5t: single pulley hook; More than 10t: double pulley hook.
3. High security, safety buckle, mousing hook



Part 1 Introduction

7.2 Travelling Mechanism

- 7.2.1** Consist of electric trolley, travelling reducer, travelling motor, driven trolley, etc.
The mechanism do reciprocating motion through main engine driven by side plate and drum.
- 7.2.2** The wheel tread is straight when used with box type girder or H beam.
- 7.2.3** The wheel tread is circular arc when used with I-beam.
- 7.2.4** Its travelling speed is 20m/min, but 30m/min is possible; if 1~5t capacity with 12m or higher lifting height, a driven trolley is necessary
- 7.2.5 Travelling Motor**
 - ✧ Use tapered rotor of three-phase asynchronous braking motors
 - ✧ Stable starting, safe braking, can be used with reducer
 - ✧ B grade or F grade of insulation, closed structure, motor protection grade is IP44 or IP54

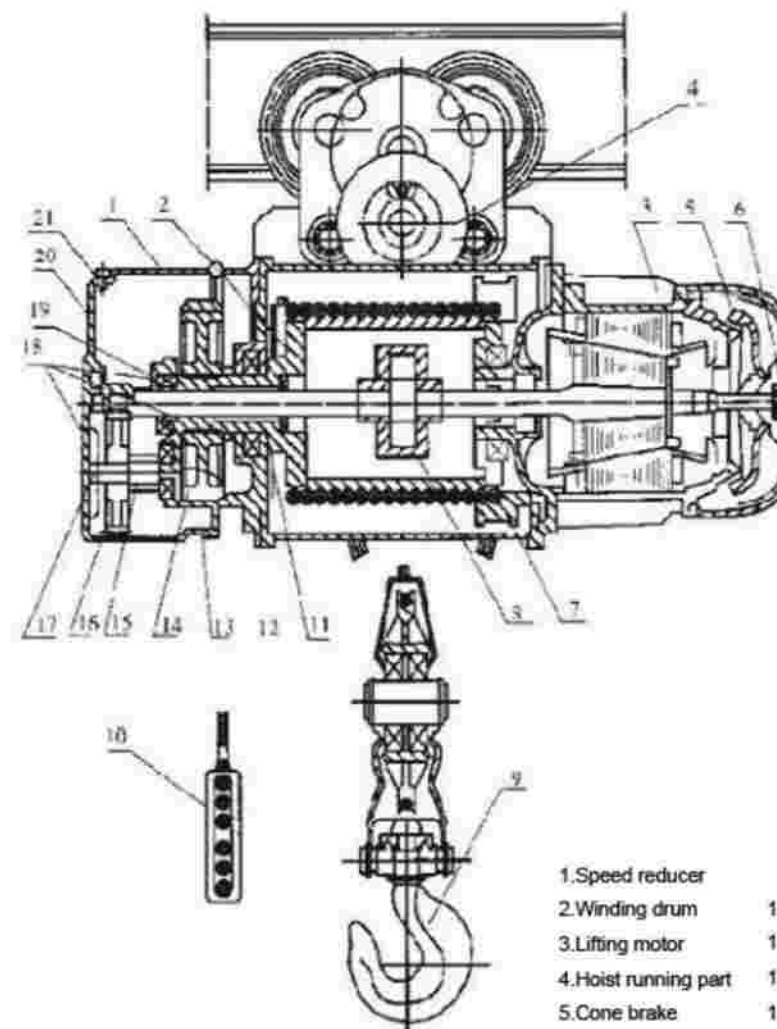


7.3 Electrical Device

- 7.3.1** Control box is rational layout, convenient for maintain
- 7.3.2** The Control box protection grade is IP55, and have water proof
- 7.3.3** The main power source is optional
- 7.3.4** Safe touch line has high electrical conduction and low pressure
- 7.3.5** Current collector has high planing speed, to ensure the sustaining power supply
- 7.3.6** Consisted with controlling box(0.25t capacity has no lt), switch button, stopper and connecting wire
- 7.3.7** The switch button power voltage is 380v or 36v, standard product is 360v, operating the switch accords to the direction symbols on it, via the disconnecter's connect and disconnect(In controlling wire) to control the hoist's moving.
- 7.3.8** Safe and Standard Protecting Function:
 - novoltage protection, ground protection, short-circuit protection, thermal protection, over-loading protection, limit protection, overcurrent protection, power-off protection
 - ✧ Lifting limiter: broken fire limit device during up and down travelling
 - ✧ Overloading protection: overload limiter, according to the working conditions on site to preinstall related parameters
 - ✧ Top-clashing proof device: heavy punch limiter, sensitive reaction, compact appearance



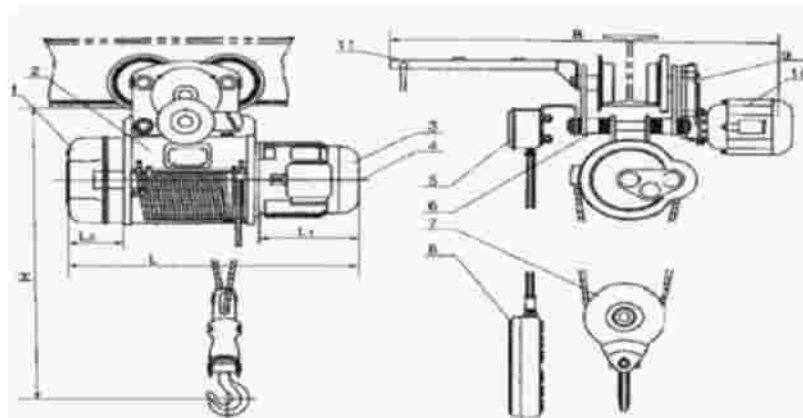
Part 2: Drawing



- | | |
|----------------------|--------------------------|
| 1.Speed reducer | 12.Box body |
| 2.Winding drum | 13.Seal ring |
| 3.Lifting motor | 14.09 gear |
| 4.Hoist running part | 15.06 gear shaft |
| 5.Cone brake | 16.05 gear |
| 6.Adjusting nut | 17.04gear shaft |
| 7.Rope guide | 18.Ball bearing |
| 8.Coupling | 19.needle roller bearing |
| 9.Hook | 20.Box cover |
| 10.Control board | 21.Vent plug |
| 11.Hollow spindle | |

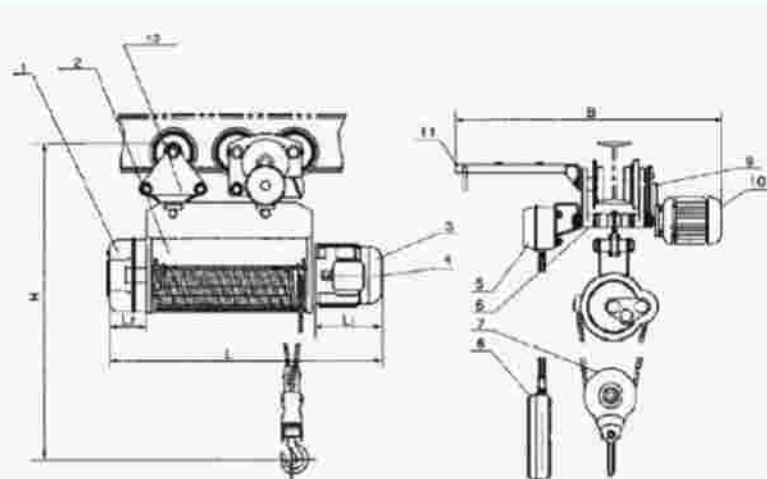
Part 2: Drawing

1 CD1 type 0.5t-5t, lifting height 6m-9m electric hoist outline drawing



- | | | | |
|------------------------------|--------------------------|------------------|--------------------|
| 1. Lifting mechanism reducer | 2. Winding drum | 3. Lifting motor | 4. Brake regulator |
| 5. Electric equipment | 6. Electric running part | 7. Hook | 8. Control board |
| 9. Running part reducer | 10. Traveling motor | 11. Cable guide | |

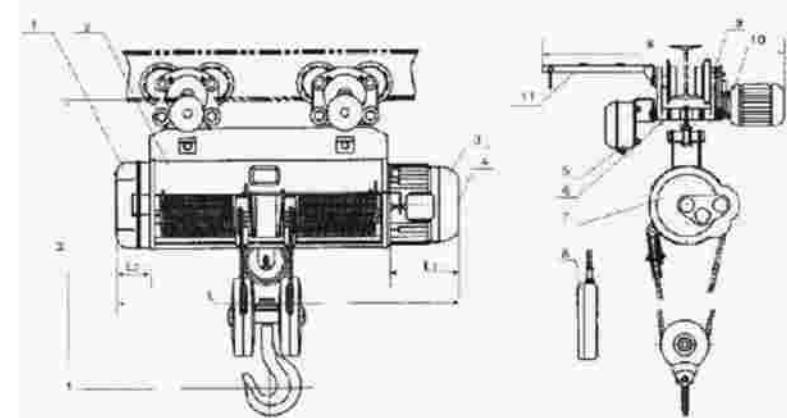
2 CD1 type 0.5t-5t, lifting height 12m-30m electric hoist outline drawing



- | | | | |
|------------------------------|--------------------------|------------------|--------------------|
| 1. Lifting mechanism reducer | 2. Winding drum | 3. Lifting motor | 4. Brake regulator |
| 5. Electric equipment | 6. Electric running part | 7. Hook | 8. Control board |
| 9. Running part reducer | 10. Running motor | 11. Cable guide | 12. Following car |

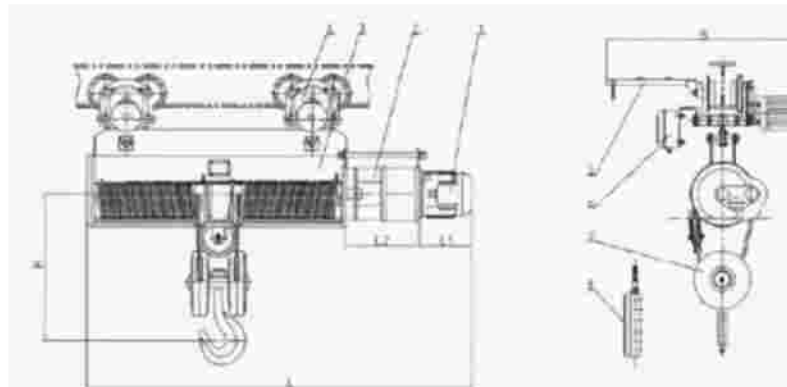
Part 2: Drawing

3 CD1 type 10t, lifting height 9m-30m electric hoist outline drawing



- | | | | |
|------------------------------|--------------------------|------------------|--------------------|
| 1. Lifting mechanism reducer | 2. Winding drum | 3. Lifting motor | 4. Brake regulator |
| 5. Electric equipment | 6. Electric running part | 7. Hook | 8. Control board |
| 9. Running part reducer | 10. Running motor | 11. Cable guide | |

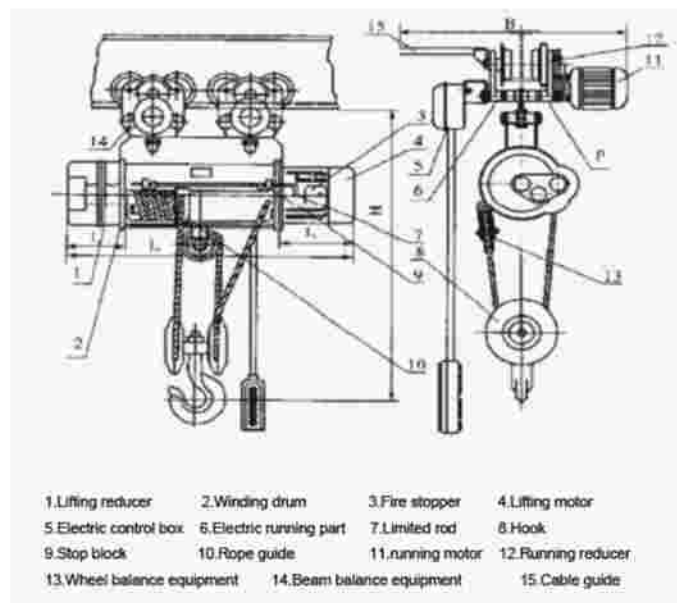
4 CD1 type 10t, lifting height 35m-100m electric hoist outline drawing



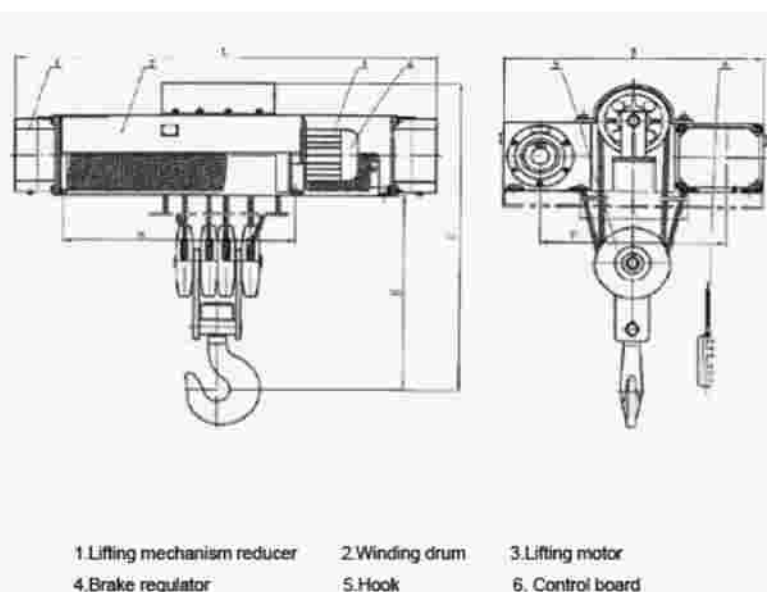
- | | | | |
|------------------|------------------------------|-----------------|--------------------------|
| 1. Lifting motor | 2. Lifting mechanism reducer | 3. Winding drum | 4. Electric running part |
| 5. Cable guide | 6. Electric equipment | 7. Hook | 8. Control board |

Part 2: Drawing

5 Lifting capacity 16t electric hoist outline drawing



6 Lifting capacity 50t electric hoist outline drawing



Part 3: Parameters

CD1 type wire rope electric hoist		2t					
Lifting speed	m/min	8					
Traveling speed	m/min	20、30					
Lifting motor	kw	3					
Traveling motor	kw	0.4					
Traveling orbit		20a~32c					
Lifting height	m	6	9	12	18	24	30
Min curvature radius	m	1.2	1.2	1.5	2	2.5	3.5
Dead weight	kg	221	232	285	309	332	353

CD1 type wire rope electric hoist		3t					
Lifting speed	m/min	8					
Traveling speed	m/min	20、30					
Lifting motor	kw	4.5					
Traveling motor	kw	0.4					
Traveling orbit		20a~32c					
Lifting height	m	6	9	12	18	24	30
Min curvature radius	m	1.2	1.2	1.5	2	2.5	3.5
Dead weight	kg	281	297	354	390	420	451

CD1 type wire rope electric hoist		5t					
Lifting speed	m/min	8					
Traveling speed	m/min	20、30					
Lifting motor	kw	7.5					
Traveling motor	kw	0.8					
Traveling orbit		25a~63c					
Lifting height	m	6	9	12	18	24	30
Min curvature radius	m	1.5	1.5	1.5	2.5	3.0	4.0
Dead weight	kg	473	495	597	646	686	726

CD1 type wire rope electric hoist		10t					
Lifting speed	m/min	7					
Traveling speed	m/min	20、30					
Lifting motor	kw	13					
Traveling motor	kw	0.8					
Traveling orbit		25a~63c					
Lifting height	m		9	12	18	24	30
Min curvature radius	m		3.0	3.5	4.5	6.0	7.5
Dead weight	kg		1048	1098	1209	1310	1411

Part 3: Parameters

Model		CD1 MD1							
Capacity	Tons	0.25	0.5	1	2	3	5	10	16
Hoisting height	M	3,6,9	6,9,12	6,9,12,18,24,30				9,12,18,24,30	
Hoisting speed	M/MIN	8 (0.8/8)	8 (0.8/8)	8 (0.8/8)				7 (0.7/7)	3.5 (0.35/3.5)
Travel speed	M/MIN	20	20/30	20/30	20/30	20/30	20/30	20/30	18
Wirerope	Dia.(mm)	3.6	4.8	7.4	11	13	15	15	17.5
	Spec.	6×39	6×37+FC	6×37+FC				6×37+FC	6×37+FC
Hoisting motor	Type	Type	ZD112-4	ZD1 21-4	ZD1 22-4	ZD1 31-4	ZD1 32-4	ZD1 41-4	ZD1 51-4
				ZDS1 0.2/0.8	ZDS1 0.2/1.5	ZDS1 0.4/3.0	ZDS1 0.4/4.5	ZDS1 0.8/7.5	ZDS1 1.5/13
	Power	Power(kW)	0.4	0.8 (0.2/0.8)	1.5 (0.2/1.5)	3.0 (0.4/3.0)	4.5 (0.4/4.5)	7.5 (0.8/7.5)	13 (1.5/13)
	Rotation speed	Rotation speed(r/min)	1380	1380	1380	1380	1380	1400	1400
Travel motor	Current	(A)	1.25	2.2 (0.72/2.4)	4.3 (0.72/4.3)	7.6 (1.25/7.6)	11 (2.4/11)	18 (2.4/18)	30 (5.2/30)
	Type	Type	ZDY1 10-4	ZDY1 11-4	ZDY1 11-4	ZDY1 12-4	ZDY1 12-4	ZDY1 21-4	ZDY1 21-4
	Power	Power(kW)	0.06	0.2	0.2	0.4	0.4	0.8	0.8x2
	Rotation speed	Rotation speed(r/min)	1400	1380	1380	1380	1380	1380	1380
Power	Current	Current(A)	0.3	0.72	0.72	1.25	1.25	2.4	2.4
			AC 380V,50HZ,3P						